

Radio-frequency connectors —

**Part 8: Sectional specification —
RF coaxial connectors with inner
diameter of outer conductor 6,5 mm
(0,256 in) with bayonet lock —
Characteristic impedance 50 ohms
(type BNC)**

The European Standard EN 61169-8:2007 has the status of a
British Standard

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National foreword

This British Standard was published by BSI. It is the UK implementation of EN 61169-8:2007. It is identical with IEC 61169-8:2007. It supersedes BS QC221200:1997 which is withdrawn.

The UK participation in its preparation was entrusted by Technical Committee EPL/46, Cables, wires and waveguides, radio frequency connectors and accessories for communication and signalling, to Subcommittee EPL/46/2, Radio frequency connectors and waveguides.

A list of organizations represented on this committee can be obtained on request to its secretary.

This publication does not purport to include all the necessary provisions of a contract. Users are responsible for its correct application.

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**Radio-frequency connectors -
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Characteristic impedance 50 ohms (type BNC)
(IEC 61169-8:2007)**

Connecteurs pour fréquences
radioélectriques -
Partie 8: Spécification intermédiaire -
connecteurs coaxiaux
pour fréquences radioélectriques,
ayant un diamètre intérieur du conducteur
extérieur de 6,5 mm (0,256 in),
à verrouillage à baïonnette -
Impédance caractéristique
de 50 ohms (type BNC)
(CEI 61169-8:2007)

Hochfrequenz-Steckverbinder -
Teil 8: Rahmenspezifikation -
Koaxiale Hochfrequenzsteckverbinder
mit 6,5 mm (0,256 in) Innendurchmesser
des Außenleiters und Bajonettverschluss -
Wellenwiderstand 50 Ohm (Typ BNC)
(IEC 61169-8:2007)

This European Standard was approved by CENELEC on 2007-03-01. CENELEC members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration.

Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the Central Secretariat or to any CENELEC member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CENELEC member into its own language and notified to the Central Secretariat has the same status as the official versions.

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CENELEC

European Committee for Electrotechnical Standardization
Comité Européen de Normalisation Electrotechnique
Europäisches Komitee für Elektrotechnische Normung

Central Secretariat: rue de Stassart 35, B - 1050 Brussels

Foreword

The text of document 46F/57/FDIS, future edition 1 of IEC 61169-8, prepared by SC 46F, R.F. and microwave passive components, of IEC TC 46, Cables, wires, waveguides, R.F. connectors, R.F. and microwave passive components and accessories, was submitted to the IEC-CENELEC parallel vote and was approved by CENELEC as EN 61169-8 on 2007-03-01.

The following dates were fixed:

- latest date by which the EN has to be implemented
at national level by publication of an identical
national standard or by endorsement (dop) 2007-12-01
- latest date by which the national standards conflicting
with the EN have to be withdrawn (dow) 2010-03-01

Annex ZA has been added by CENELEC.

Endorsement notice

The text of the International Standard IEC 61169-8:2007 was approved by CENELEC as a European Standard without any modification.

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RADIO-FREQUENCY CONNECTORS –

Part 8: Sectional specification – RF coaxial connectors with inner diameter of outer conductor 6,5 mm (0,256 in) with bayonet lock – Characteristic impedance 50 Ω (type BNC)

1 Scope

This part of IEC 61169, which is a sectional specification (SS), provides information and rules for the preparation of detail specifications (DS) for RF coaxial connectors which may preferably be used with RF cables 60096 IEC 50-3 of IEC 60096-2. These connector patterns are for low power, quick connect/disconnect applications using a bayonet type coupling mechanism and are commonly known as type "BNC".

It describes the interface dimensions for general purpose connectors, dimensional details for standard test connectors together with gauging information and the mandatory tests selected from IEC 61169-1, applicable to all DS relating to type BNC connectors.

This specification indicates the recommended performance characteristics to be considered when writing a DS and covers test schedules and inspection requirements.

2 Normative references

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

IEC 60068-1:1988, *Environmental testing – Part 1: General and guidance*
Amendment 1 (1992)

IEC 60096-2, *Radio-frequency cables – Part 2: Relevant cable specifications*

IEC 61169-1:1992, *Radio-frequency connectors – Part 1: Generic specification – General requirements and measuring methods*

3 IEC type designation

Connectors of this standard shall be designated by:

- a) the reference to this standard, 61169-8 IEC;
- b) a serial number (see Clause 6);
- c) a letter corresponding to the climatic category (see 7.2).

Example:

61169-8-IEC-1A denotes a free pin connector belonging to climatic category 40/85/21 to be used with an RF coaxial cable 60096 IEC 50-3-1/3/4.

NOTE The type designation used in this standard is provisional. A final type designation is under consideration.

4 Interface dimensions

4.1 Dimensions – General purpose connectors

The original dimensions are in inches.

All undimensioned pictorial configurations are for reference purposes only.

4.1.1 Pin connector

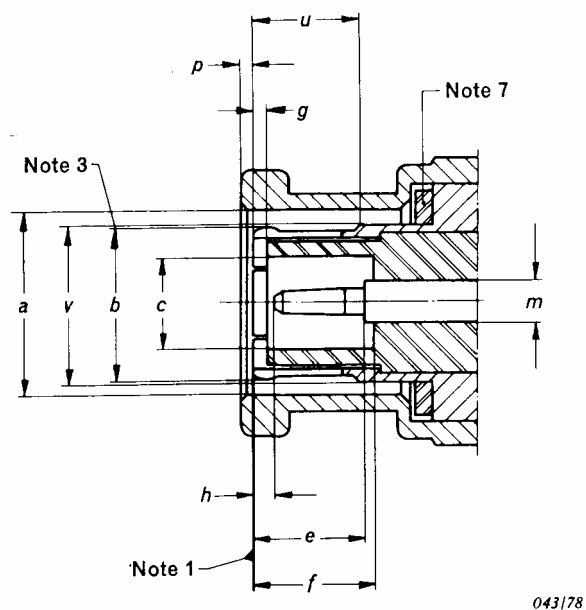


Figure 1 – Connector with pin-centre contact (for dimensions, see Table 1)

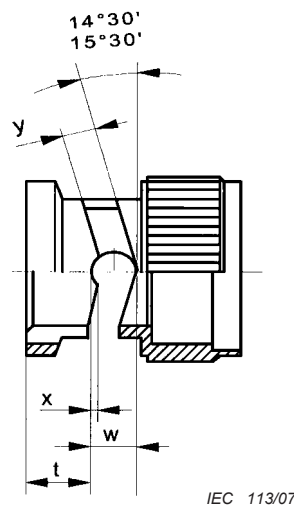
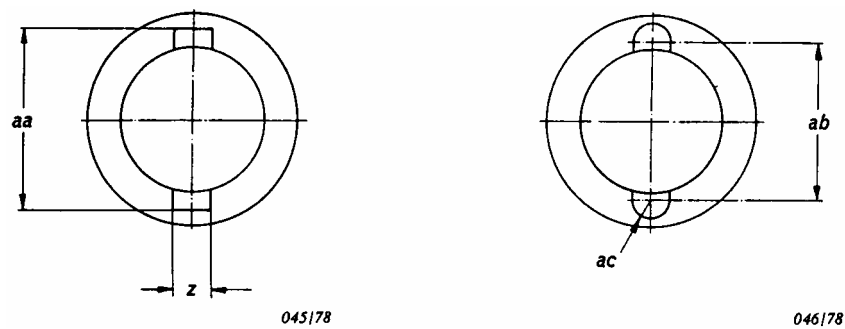


Figure 2 – Details of bayonet lock



Figures 3 and 4 – Details of alternative coupling grooves

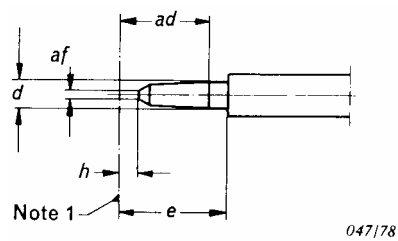


Figure 5 – Details of pin-centre contact

Table 1 – Dimensions for connector with pin-centre contact

Reference	mm		inch		Note
	Min.	Max.	Min.	Max.	
a	9,78	9,91	0,385	0,390	9/diam.
b	–	–	–	–	3/9/diam.
c	4,83	–	0,190	–	9/diam.
d	1,32	1,37	0,052	0,054	9/diam.
e	5,33	–	0,210	–	
f	5,28	–	0,208	–	
g	0,15	–	0,006	–	
h	0,08	1,02	0,003	0,040	
m	2,140 nom.		0,0842 nom.		diam.
p	1,44 nom.		0,057 nom.		10
u	5,38	–	0,212	–	
v	–	8,18	–	0,322	9/diam.
z	2,31	2,46	0,091	0,097	6
aa	11,76	–	0,463	–	6
ab	10,14 nom.		0,399 nom.		6
ac	1,14	–	0,045	–	6/rad.
ad	1,96	3,05	0,077	0,120	
af	–	0,64	–	0,025	diam.
t	4,47	4,67	0,180	0,184	
w	3,15	–	0,124	–	
x	0,46	0,56	0,018	0,022	
y	2,31	2,46	0,091	0,097	
NOTE 1 Mechanical and electrical reference plane.					
NOTE 3 Slotted and flared to meet gauge test according to 5.1.1.					
NOTE 6 It is permitted to use either Figure 3 or Figure 4.					
NOTE 7 Sealing gasket to meet required electrical and environmental performance.					
NOTE 9 Diameters shall be gauged to ensure that on mmC each feature is on or can take up a common axis.					
NOTE 10 This dimension shows the position when the bayonet sleeve is locked.					

4.1.2 Socket connector

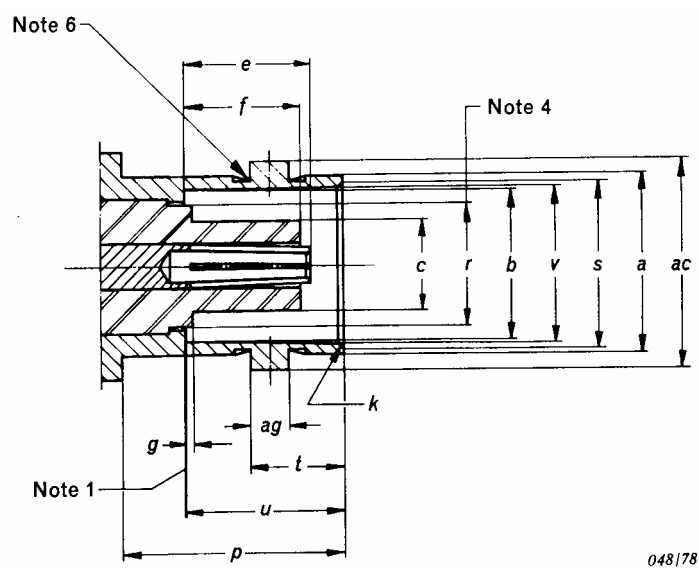


Figure 6 – Connector with socket-centre contact (for dimensions, see Table 2)

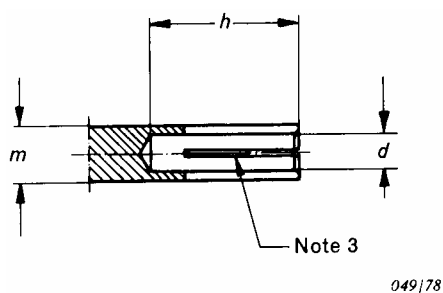


Figure 7 – Details of socket-centre contact

Table 2 – Dimensions for connector with socket-centre contact

Reference	mm		inch		Note
	Min.	Max.	Min.	Max.	
a	9,60	9,70	0,378	0,382	9/diam.
b	8,10	8,15	0,319	0,321	9/diam
c	—	4,72	—	0,186	9/diam.
d	-	-	-	-	3/9/diam.
e	4,55	5,23	0,179	0,206	
f	-	5,28	-	0,208	
g	-	0,15	-	0,006	
h	4,95	-	0,195	—	
k	—	—	—	—	8
m	2,140 nom.		0,0842 nom.		diam.
p	10,52	-	0,414	—	
r	—	6,50	—	0,256	4/diam.
s	8,79	9,04	0,346	0,356	diam.
t	5,18	5,28	0,204	0,208	
u	8,31	8,51	0,327	0,335	
v	8,31	8,46	0,327	0,333	9/diam.
ac	10,97	11,07	0,432	0,436	9
ag	1,91	2,05	0,075	0,081	diam.
NOTE 1 Mechanical and electrical reference plane.					
NOTE 3 Slotted and closed to meet requirements of 5.1.2.					
NOTE 4 Applies only when dielectric extends beyond reference plane.					
NOTE 6 A concave depression between studs is permissible.					
NOTE 8 Chamfer or radius.					
NOTE 9 Diameters shall be gauged to ensure that on mmC each feature is on or can take up a common axis.					

5 Mechanical gauges and standard test connectors

5.1 Mechanical gauges

5.1.1 Connectors with pin centre contact

5.1.1.1 Gauge for outer contact of pin connector

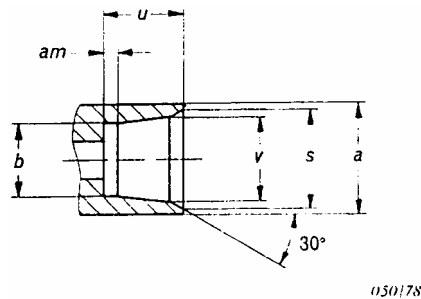


Figure 8 – Gauge for outer contact of pin connector